



Centre for Environmental Rights

Advancing Environmental Rights in South Africa

Department of Energy

192 Visagie Street

Pretoria

Per email: IRP.Queries@energy.gov.za

IEP.Queries@energy.gov.za

Copied to:

The Honourable Minister Mr David Mahlobo

Minister of Energy

By email: deidre.nkopane@energy.gov.za

vusimuzi.sekgobela@energy.gov.za

nokuthula.mbeje@energy.gov.za

Tshepo Madingoane

Energy Planning

Department of Energy

By email: Tshepo.Madingoane@energy.gov.za

Our ref: RH/NL
20 November 2017

Dear Sirs

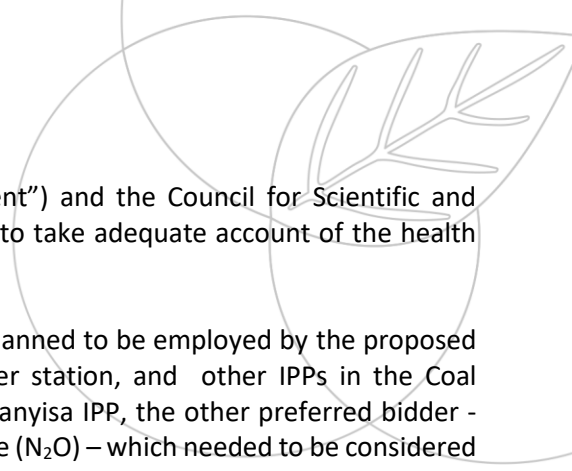
ADDITIONAL WRITTEN COMMENTS ON THE INTEGRATED RESOURCE PLAN (IRP) UPDATE: ASSUMPTIONS, BASE CASE RESULTS AND OBSERVATIONS, REVISION 1 AND ON THE DRAFT INTEGRATED ENERGY PLAN (IEP)

1. We address you on behalf of the [Life After Coal/Impilo Ngaphandle Kwamalahle Campaign](#)¹ (made up of the [Centre for Environmental Rights](#) (CER), [groundWork](#) and [Earthlife Africa Johannesburg](#)).
2. We refer to the CER's submissions on the IRP Base Case and Assumptions and the draft IEP of 31 March 2017² and to our [letter of 11 August 2017](#) (attached), in which we sought to bring to your attention important information and missing cost calculations from these plans that had emerged since our submissions of March 2017; these being:

¹ The campaign aims to discourage investment in new coal-fired power stations and mines; accelerate the retirement of South Africa's coal infrastructure; and enable a just transition to renewable energy systems for the people.

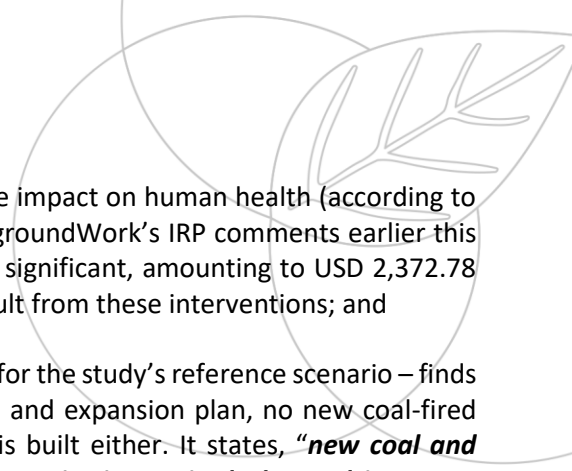
² Available at <https://cer.org.za/wp-content/uploads/2016/08/CER-IRP-Base-Case-IEP-Comments-31-3-2017.pdf>.

2nd Floor, Springtime Studios,
1 Scott Road, Observatory, 7925
Cape Town, South Africa
Tel 021 447 1647, Fax 086 730 9098
Email info@cer.org.za, www.cer.org.za

- 
- 2.1. the failure by both the Department of Energy (“the Department”) and the Council for Scientific and Industrial Research (CSIR) (in relation to their ‘alternative IRP’³) to take adequate account of the health and water costs of existing and new investments in coal;
 - 2.2. that the circulating fluidised bed combustion (CFB) technology planned to be employed by the proposed Thabametsi independent power producer (IPP) coal-fired power station, and other IPPs in the Coal Baseload IPP Procurement Programme (CBIPPPP) – including Khanyisa IPP, the other preferred bidder - results in significant emissions of the greenhouse gas nitrous oxide (N₂O) – which needed to be considered in the IRP and IEP modelling; and
 - 2.3. the failure to include the decommissioning cost; the used fuel storage and handling costs; and the cost of insurance risk cover in relation to nuclear in the costing model.
3. We asked the Department to confirm that it would take these issues into account in drafting the updated IRP and IEP. We have not yet received a response.
 4. We now write to bring further relevant information to your attention, which must be considered in finalising both the IRP and IEP; this being the findings of a recent study by Meridian Economics titled “Eskom’s Financial Crisis and the Viability of Coal-Fired Power in South Africa” (“the Meridian study”).⁴
 5. The Meridian study looks into several possible strategies to assist with ameliorating Eskom’s critical financial challenges. According to Meridian, if the system can meet demand over the same time period through alternative resources (existing and new), at a cost lower than the levelised cost of electricity from a particular power station, then it makes economic sense to decommission that station early (or not to complete it).
 6. Essentially, the Meridian study investigates two questions:
 - 6.1. should Eskom cancel part of its power station construction programme to reduce costs; and
 - 6.2. should Eskom bring forward the decommissioning of some of its older coal power stations to reduce costs?
 7. The findings of the Meridian study are *inter alia* that:
 - 7.1. Eskom's inflexible construction programme has now resulted in a significant and growing surplus of expensive generation capacity;
 - 7.2. Eskom should accelerate the **decommissioning of 3 of its older coal-fired power stations** (Hendrina, Grootvlei and Komati) and **curtail the completion of Kusile units 5 and 6 in order to save costs**;
 - 7.3. these interventions can be achieved **without affecting security of supply**;
 - 7.4. these interventions could **save Eskom up to R17 billion**;

³ The CSIR has since updated its alternative IRP. A presentation on the update can be accessed at <http://rodoyo.com/gtac/GTAC%20in%20Pretoria%20-%20Energy%20Planning%20-%20TBN%20-%204Aug2017.pdf>. See http://www.engineeringnews.co.za/article/new-study-points-to-90-renewables-mix-being-least-cost-by-2050-2017-09-15/rep_id:4136 https://www.csir.co.za/sites/default/files/Documents/20170331CSIR_EC_DOE.pdf and http://m.engineeringnews.co.za/article/new-csir-model-points-to-renewables-led-electricity-mix-by-2050-2017-11-16/rep_id:4433.

⁴ A study by Grové Steyn, Jesse Burton, Marco Steenkamp, 15 November 2017, available at http://meridianeconomics.co.za/wp-content/uploads/2017/11/Eskom-financial-crisis-and-the-viability-of-coalfired-power-in-SA_ME_20171115.pdf.

- 
- 7.5. these estimates **do not reflect the additional large savings** in the impact on human health (according to a study commissioned by groundWork – which was included in groundWork’s IRP comments earlier this year – the health costs of Eskom’s coal-fired power stations are significant, amounting to USD 2,372.78 annually⁵), local environment and climate change that would result from these interventions; and
 - 7.6. the system analysis undertaken by the CSIR Energy Centre – used for the study’s reference scenario – finds that, in a 34 year, least-cost optimised power system operation and expansion plan, no new coal-fired power capacity is built after Kusile, and no new nuclear plant is built either. It states, **“new coal and nuclear plants are simply no longer competitive. When new capacity is required, demand is met at lowest cost primarily from new solar PV and wind”**⁶ (our emphasis).
 8. A further study by the Frankfurt Institute for Advanced Studies at the Goethe-University in Germany (“the Frankfurt study”) provides independent confirmation of the CSIR findings regarding the least-cost electricity mix for South Africa.⁷ It finds that an electricity system based on wind and solar PV can supply electricity demand at 10%-30% more cheaply than based on new coal and nuclear – this is the case even when investments in the grid and transmission of electricity are taken into account. This study places it beyond any scientific doubt, from a cost perspective, that no new coal or new nuclear should ever be built in South Africa again.
 9. Both studies emerge amidst recent reports on Eskom’s present dire financial circumstances.⁸ Meridian finds that an even greater curtailment of Eskom’s construction programme might be necessary if Eskom’s financial crisis continues to worsen.
 10. It is also worth noting that the Meridian study finds that part of the savings – if Eskom were to implement the above measures - could be used to cushion the impact on workers and communities by providing support for re-training, skills development and relocation.
 11. The findings of the Meridian study, the CSIR, and the Frankfurt study are very relevant for purposes of modelling the least-cost electricity options for South Africa, and must, together with the other relevant factors highlighted above, be considered by the DOE in the process of updating the IRP and IEP.
 12. Not only must the above information be incorporated into the revised IRP and IEP, but it is also vital that adequate opportunity be provided for meaningful public consultation, consideration and comment in relation to both the IRP and IEP before these documents can be finalised and promulgated. In this regard, we refer to our Joint Media Release of 9 November 2017, in which the Life After Coal campaign and Greenpeace Africa reiterated the minimum requirements for the IRP, pointing out that a policy-adjusted IRP, without further public participation, can only be viewed as illegitimate. We therefore trust that drafts of both the IRP and IEP will be made available for a reasonable comment period, to ensure that the IRP and IEP are both rational and lawful.
 13. We, once again, request that you confirm receipt of this letter – and of our letter of 11 August 2017 – and that the Department will take all of these crucial issues – which are relevant considerations for the purposes of the Promotion of Justice Act, 2000 and for the legality of the plans - into account to ensure that the final IRP and IEP are lawful and are rationally connected to their least-cost energy planning purposes, and are consistent with the rights in the Bill of Rights and the requirements of relevant legislation. Given the indications that the IRP is due to be released this month or at the latest by February 2018, we would appreciate your urgent response.

⁵ P15, Health impacts of coal fired power plants in South Africa, Dr Mike Holland, available at <http://www.groundwork.org.za/Documents/AirQuality/Annexure%20Health%20impacts%20of%20coal%20fired%20generation%20in%20South%20Africa%20310317.pdf>.

⁶ P3, Executive Summary, Meridian study.

⁷ Investment and operation co-optimization of integrating wind and solar in South Africa at high spatial and temporal detail, by Jonas Hörsch and Joanne Calitz, available at <https://arxiv.org/pdf/1710.11199.pdf>.

⁸ <http://www.ee.co.za/article/alarming-picture-emerges-eskoms-liquidity-dries.html>.

Yours faithfully
CENTRE FOR ENVIRONMENTAL RIGHTS

per: 

Robyn Hugo
Attorney & Programme Head: Pollution & Climate Change
Direct email: rhugo@cer.org.za

